

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claim 1. (Currently Amended) A solid catalyst component for polymerization of olefins, comprising:

(a) a dialkoxy magnesium compound, (b) titanium tetrachloride, (c) a phthalic acid diester or a derivative thereof, and (d¹) a hydroxyl group-containing hydrocarbon compound having the following formula (1):



wherein R¹ is an alkyl group having 1 to 10 carbon atoms, a cycloalkyl group having 3 to 10 carbon atoms[,], or a halogen atom, m, which represents the number of ~~the group~~ groups R¹, ~~indicates is~~ is 0, 1, or 2, wherein when m is 2, the two R¹ groups may be either identical or different, n, which indicates the number of ~~the~~ hydroxyl groups, is 2 or 3, and X¹ represents a group obtainable by removing (m+n) hydrogen atoms from benzene, cyclopentane, cyclohexane[,], or naphthalene.

Claim 2. (Currently Amended) A solid catalyst component for polymerization of olefins comprising (a) a dialkoxy magnesium compound, (b) titanium tetrachloride, (c) a phthalic acid diester or a derivative thereof, and (d²) a mercapto group-containing hydrocarbon compound having the following formula (2):



wherein R² is an alkyl group having 1 to 10 carbon atoms, a cycloalkyl group having 3 to 10 carbon atoms[,], or a halogen atom, s, which represents the number of the group R², indicates 0, 1, or 2, wherein when s is 2, the two R² groups may be either identical or

different, t , which indicates the number of ~~the mercapto group groups~~, is 1 or 2, and X^2 represents a group obtainable by removing $(s+t)$ hydrogen atoms from benzene, provided that when t is 1, s is 1 or 2.

Claim 3. (Canceled).

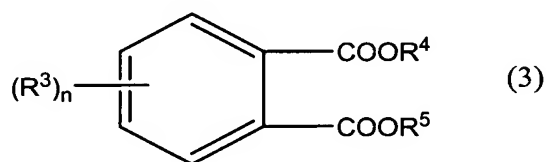
Claim 4. (Currently Amended) The solid catalyst component for polymerization of olefins according to claim 1, wherein the component (d^1) is a hydroxyl group-containing hydrocarbon compound having the structure of ~~the~~ formula (1), wherein R^1 is a cycloalkyl group having 3 to 10 carbon atoms, m , which indicates the number of ~~the group groups~~ R^1 , is 1 or 2, n , which indicates the number of ~~the hydroxyl group groups~~, is 1, and X^1 is a group obtainable by removing $(m+n)$ hydrogen atoms from benzene.

Claim 5. (Currently Amended) The solid catalyst component for polymerization of olefins according to claim 1, wherein the component (d^1) is a hydroxyl group-containing hydrocarbon compound having the structure of ~~the~~ formula (1), wherein R^1 is an alkyl group having 1 to 5 carbon atoms or a halogen atom, n , which indicates the number of the hydroxyl groups, is 2 or 3, and X^1 is a group obtainable by removing $(m+n)$ hydrogen atoms from cyclopentane or cyclohexane.

Claim 6. (Currently Amended) The solid catalyst component for polymerization of olefins according to claim 1, wherein the component (d^1) is a hydroxyl group-containing hydrocarbon compound having the structure of ~~the~~ formula (1), wherein n , which indicates the number of the hydroxyl groups, is 2 or 3 and X^1 is a group obtainable by removing $(m+n)$ hydrogen atoms from benzene.

Claim 7. (Currently Amended) The solid catalyst component for polymerization of olefins according to claim 1, wherein the component (d¹) is a hydroxyl group-containing hydrocarbon compound having the structure of the formula (1), wherein R¹ is an alkyl group having 1 to 5 carbon atoms or a halogen stout, n, which indicates the number of the hydroxyl groups, is 2 or 3, and X¹ is a group obtainable by removing (m+n) hydrogen atoms from naphthalene.

Claim 8. (Original) The solid catalyst component for polymerization of olefins according to claim 1 or claim 2, wherein the component (c) is a phthalic acid diester or the derivative thereof represented by the following formula (3),



wherein R³ is an alkyl group having 1 to 8 carbon atoms or a halogen atom, R⁴ and R⁵ may be either identical or different, individually representing an alkyl group having 1 to 12 carbon atoms, and u, which indicates the number of R³, is 0, 1, or 2, provided that when u is 2, the two R³ groups may be either identical or different, when u is 0, R⁴ and R⁵ are alkyl groups having a tertiary carbon atom and containing 4 to 8 carbon atoms.

Claim 9. (Currently Amended) A catalyst for polymerization of olefins comprising:

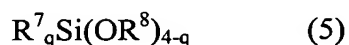
(A) the solid catalyst component according to claim 1 or claim 2,

(B) an organoaluminum compound of the following formula (4),



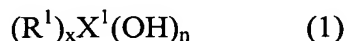
wherein R⁶ is an alkyl group having 1 to 4 carbon atoms, Q is a hydrogen atom or a halogen atom, and p is a real number satisfying an inequality $0 < p \leq 3$, and

(C) an organosilicon compound of the following general formula (5):



wherein R^7 may be either identical or different, individually representing an alkyl group having 1 to 12 carbon atoms, a cycloalkyl group, a phenyl group, a vinyl group, an allyl group, or an aralkyl group, R^8 may be either identical or different, individually representing an alkyl group having 1 to 4 carbon atoms, a cycloalkyl group, a phenyl group, a vinyl group, an allyl group, or an aralkyl group, and q is an integer satisfying an the inequality of $0 \leq q \leq 3$.

Claim 10. (Currently Amended) A solid catalyst component for polymerization of olefins comprising (a) a dialkoxy magnesium compound, (b) titanium tetrachloride, (c) a phthalic acid diester or a derivative thereof, and (d¹) a hydroxyl group-containing hydrocarbon compound having the following formula (1):



wherein R^1 is an alkyl group having 1 to 10 carbon atoms, a cycloalkyl group having 3 to 10 carbon atoms, or a halogen atom, m , which indicates the number of R^1 , is 0, 1, or 2, provided that when m is 2, the two R^1 groups may be either identical or different, n , which indicates the number of the OH group, is 1, 2[,] or 3, and X^1 represents a group obtainable by removing $(m+n)$ hydrogen atoms from benzene, cyclopentane, cyclohexane, or naphthalene,

wherein the solid catalyst component is formed by ~~causing the~~ contacting components (a), (b), and (c) ~~to come into contact~~ with each other, and then ~~causing the~~ contacting ~~components~~ component (d¹) ~~to come into contact~~ with the resulting product in the presence of the component (b).

Claim 11. (Currently Amended) A solid catalyst component for polymerization of olefins comprising (a) a dialkoxy magnesium compound, (b) titanium tetrachloride, (c) a phthalic acid diester or a derivative thereof, and (d²) a mercapto group-containing hydrocarbon compound having the following formula (2):



wherein R² is an alkyl group having 1 to 10 carbon atoms, a cycloalkyl group having 3 to 10 carbon atoms, or a halogen atom, s, which indicates the number of R², is 0, 1, or 2, provided that when s is 2, the two R² groups may be either identical or different, t, which indicates the number of ~~the mercapto group~~ groups, is 1 or 2, and X² represents a group obtainable by removing (s+t) hydrogen atoms from benzene.

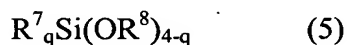
Claim 12. (Currently Amended) A catalyst for polymerization of olefins, comprising:

(A) the solid catalyst component according to claim 10 or claim 11, (B) an organoaluminum compound of the following formula (4):



wherein R⁶ is an alkyl group having 1 to 4 carbon atoms, Q is a hydrogen atom or a halogen atom, and p is a real number satisfying ~~an~~ the inequality 0 < p ≤ 3, and

(C) an organosilicon compound of the following ~~general~~ formula (5):



wherein R⁷ may be either identical or different, individually representing an alkyl group having 1 to 12 carbon atoms, a cycloalkyl group, a phenyl group, a vinyl group, an alkyl group[,], or an aralkyl group, R⁸ may be either identical or different, individually representing an alkyl group having 1 to 4 carbon atoms, a cycloalkyl group, a phenyl group, a

vinyl group, an alkyl group[,], or an aralkyl group, and q is an integer satisfying ~~an~~ the inequality of $0 \leq q \leq 3$.

Claim 13. (New) The solid catalyst component for polymerization of olefins according to claim 1, 2, 10 or 11, wherein the dialkoxy magnesium compound (a) has a particle size of 1 to 200 μm .

Claim 14. (New) The solid catalyst component for polymerization of olefins according to claim 13, wherein the dialkoxy magnesium compound (a) has a particle size of 5 to 150 μm .

Claim 15. (New) The solid catalyst component for polymerization of olefins according to claim 1, 2, 10 or 11, wherein the phthalic acid diester (c) is dimethyl phthalate, diethyl phthalate, di-n-propyl phthalate, di-iso-propyl phthalate, di-n-butyl phthalate, di-iso-butyl phthalate, methylethyl phthalate, methyl(iso-propyl)phthalate, ethyl(n-propyl)phthalate, ethyl(n-butyl)phthalate, ethyl(iso-butyl)phthalate, di-n-pentyl phthalate, di-iso-pentyl phthalate, dihexyl phthalate, di-n-heptyl phthalate, di-n-octyl phthalate, bis(2,2-dimethylhexyl) phthalate, bis(2-ethylhexyl) phthalate, di-n-nonyl phthalate, di-iso-decyl phthalate, bis(2,2-dimethylheptyl) phthalate, n-butyl(iso-hexyl phthalate, n-butyl(2-ethylhexyl)phthalate, n-pentylhexyl phthalate, n-pentyl(iso-hexyl) phthalate, iso-pentyl(heptyl) phthalate, n-pentyl(2-ethylhexyl) phthalate, n-pentyl(iso-nonyl) phthalate, iso-pentyl(n-decyl) phthalate, n-pentylundecyl phthalate, iso-pentyl(iso-hexyl) phthalate, n-hexyl(2-ethylhexyl) phthalate, n-hexyl(iso-nonyl) phthalate, n-hexyl(n-decyl) phthalate, n-heptyl(2-ethylhexyl) phthalate, n-heptyl(iso-nonyl) phthalate, n-heptyl(iso-nonyl) phthalate, n-heptyl(neo-decyl) phthalate or 2-ethylhexyl(iso-nonyl) phthalate.